US Army Corps of Engineers®

The Corps Environment

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Resource stewardship helps Corps protect Nation's waters, environment

By HEIDI Y. HELWIG
Portland District

"Taking advantage of unique opportunities to provide habitat improvement in a highly urban setting is one of the ways the Corps can make a real difference in improved water quality," said Doug Putman, project manager for the U.S. Army Corps of Engineers' Columbia Slough Ecosystem Restoration Project.

Jim Beal, who oversees operations at the U.S. Army Corps of Engineers' Fern Ridge Reservoir Project Office near Eugene, Ore., agrees. "It's the activities in resource stewardship that are really making the difference in improved water quality. The restoration projects that we've undertaken-riparian habitat projects, fish and wildlife program efforts - have had direct impacts on water quality."

During the past 30 years, the Corps has mirrored the goal of the Clean Water Act to restore and maintain the integrity of the Nation's waters and other natural resources.

In fact, the Corps operates its multiple purpose projects in the Rogue, Willamette and Columbia river basins as much for water quality as for hydropower, navigation or fisheries improvement.

The Corps' most positive impacts to water quality, however, are more likely realized by engaging in a host of restoration and improvement activities on a daily basis throughout the year. As the manager for the lion's share of the Willamette Valley's unique upland prairie that still exists today (less than 1 percent of the original prairie), Beal knows first hand the importance of protecting and improving natural resources before they're gone.

Examples of restoration projects are the Fern Ridge Marsh Restoration Project and the Amazon Creek Restoration Project (which is one of the largest restoration projects of its' kind, with 400 acres of wet prairie), both near Eugene, and Columbia Slough Project in Northeast Oregon. Improved water quality is a side benefit of these projects. Water is purified as it flows through the vegetated areas.

Another way the Corps meets the goals of the Clean Water Act is by improving water quality specifically for fish.

"From a fisheries standpoint, it has very significant positive effects," said Jim Buck, operations manager for the Rogue River project, referring to a temperature control tower at the Lost Creek Reservoir on the Rogue River. "It provides cooler or warmer water to benefit fisheries than would happen naturally throughout much of the year," he said. A similar tower is now under construction at the Corps' Cougar Dam on the South Fork of the McKenzie River.

The Corps also protects the integrity of existing bodies of water in the United States by or denying permits under Section 404 of the act. Before making decisions on permit applications, Corps regulators consider how water quality might be affected by the proposed action, as well as what impacts might occur to species protected by the Endangered Species Act.

Accomplishing these varied missions is a delicate balancing act for obvious reasons: everyone needs water, but often for different or even opposing reasons. In an effort to create more balance between development and natural systems, the Corps is implementing seven national Environmental Operating Principles. Their underlying goal is to protect our nation's natural resources, including water, while working to provide sustainable water resources and military support solutions in metropolitan areas.

"Really, everything we do has an impact on water quality," Beal said. "Everything the Corps is doing in the environmental stewardship and regulatory arenas is where the real work is being done to improve our quality of water, and that is also where other environmental benefits are being accrued."

For more information, contact the Portland District Public Affairs Office at 503-808-4510. *See page 5 for pictures of the Corps' activities celebrating the 30th anniversary of the Clean Water Act.*

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US Army Corps of Engineers®

The Corps Environment

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Corps issues permit for scientific data tower in Nantucket Sound

By TIMOTHY J. DUGAN
New England District

The U.S. Army Corps of Engineers is issuing a Section 10 permit to Cape Wind Associates to place a Scientific Measurement Devices Station (SMDS) and associated monitoring devices on Horseshoe Shoals in Nantucket Sound off Cape Cod, Mass.

With the permit, Cape Wind Associates will use the equipment to gather technical data that may be used later as part of a Wind Farm project that would generate power for the area.

The permit application went through a thorough public and agency review process, said Karen Adams, Project Manager for the Cape Wind Environmental Impact Statement. "We extended the public notice comment period in response to public requests. We also held public hearings on the data tower in Hyannis and on Martha's Vineyard in April 2002 to fully understand local concerns and issues."

As a result of the public involvement and agency review, the determination, made in August, includes 16 special conditions as part of the five-year permit which the applicant must adhere to, including one requiring a bond posting.

Cape Wind Associates plans to install and maintain a pile-supported scientific measuring tower extending approximately 197 feet in the air above the mean low water elevation in the ocean waters of Horseshoe Shoals in Nantucket Sound as well as an associated measurement device imbedded in the sea floor.

The permit application is only for the installation of these scientific measuring devices to gather technical data and has no effect on the environmental review and permitting process for the entire Wind Farm project. The device to be imbedded in the ocean bottom, with a line connecting it to the tower, is located about 300 feet from the proposed data tower.

Photo by Cape Wind Associates

Wind towers such as this one are proposed for Cape Cod.

According to the applicant, these devices are intended to gather scientific data, including meteorological and oceanographic data, to evaluate the design and engineering criteria for a proposed wind energy project in this area of Horseshoe Shoals.

"After careful review by the Army Corps of Engineers and other state and federal agencies, we have determined that this activity is permissible under our jurisdiction of Section 10 of the Rivers and Harbors Act," said Christine Godfrey, Chief, Regulatory Division. "Through review by Corps engineers and biologists in consultation with other Federal, State and local agency representatives, we have concluded that the proposed project will not impact navigation and will have minimal impact on the marine environment. Our decision is as a result of our full National Environmental Policy Act compliance review. Additionally, the permit does not convey any property rights."

These structures will be placed in Nantucket Sound but outside of Massachusetts' waters.

Information on Cape Wind's proposed project and the Wind Farm EIS is available online at www.nae.usace.army.mil/. For additional information contact the New England District Public Affairs Office at 978-318-8264.

Research at Fort Benning supports sustainable land use

By DANA FINNEY
ERDC-CERL

On a typically hot Georgia day, infantry trainees at Fort Benning fire on a small arms range, mechanized units thunder down tank trails in Bradley Fighting Vehicles, and C-130s roar overhead carrying Airborne squads to a jump site. Meanwhile, a student from the University of Louisiana slogs through Ochillee Creek using a special instrument to sample creek bottom sediments – material that scientists hope will offer clues into the health of the fort's streams.

Fort Benning has become a test bed for ecosystems research under the Defense Department's Strategic Environmental Research and Development Program (SERDP). Under this program and effort called the Strategic Ecosystem Management Project (SEMP), more than 20 researchers from 12 universities and four government laboratories are taking the post's environmental pulse from some 800 monitoring sites. The goal is to develop ecological simulation models that will ensure Benning's ability to sustain its training mission over the long term and gain a better understanding of the fort's ecosystem dynamics, which will be applied to its land management practices, thus sustaining these ecological resources.

Models developed in the SEMP program will allow trainers to predict environmental impact of emerging weapons systems, such as the Stryker.

"SEMP will give us and other installations the ability to look within and outside our boundaries using an ecosystems approach," said John Brent, chief of the Environmental Management Division in Fort Benning's Directorate of Facilities Engineering and Logistics. "In the past, we've managed individual species and habitats in a focused, but not integrated, way. SEMP will give some order to the way we do things, and will reach beyond just natural resources to include social and political aspects of ecosystem management."

The research will produce two main outcomes, according to Dr. Harold Balbach, SEMP program manager at the U.S. Army Engineer Research and Development Center's Construction Engineering Research Laboratory (CERL). One is to add to the body of scientific knowledge about ecosystems by conducting research, developing simulation models, and publishing peer-reviewed documents. The second is to give land managers tools, i.e. simulation models, for making sound environmental decisions.

"The long term goal is to provide installation environmental managers with models, indicators, and simple tests that can tell them if the decisions they're making are trending in the right direction, and how long it will take to reach the desired state," Balbach said. "Over the 10-year project, researchers will first identify a list of conditions that could be indicators of change, or thresholds that signal a major ecological change is about to happen. Then they will pare that list down to a small number of manageable indicators that the installation can use on a practical basis." When demonstrated to be accurate, these indicators will be used in the simulation models so that land managers can better determine alternative ecological conditions they would like to achieve, i.e., the desired state.

Fort Benning was chosen as the SEMP demonstration site in part because of the large amount of environmental data already available there and also because of its rich diversity in plant and animal life, which should accelerate the development of usable findings. Ultimately the findings from the research at the post will be extended to areas outside the fence line – to include the entire fall line region between Forts Benning and Bragg, in an effort to understand the interactions of the ecosystems on post with those off post.

How do you do environmental research on a major military training installation? Any disruption to the training mission would defeat the purpose of research to sustain Fort Benning, since it only exists to train soldiers and project power. Yet SEMP involves intensive field work to monitor test sites located all over the training areas.

"We have to control access to the different training compartments for safety and to avoid interfering with the units going in to train," said Hugh Westbury, SEMP's host site coordinator. "If we're going to keep SEMP on track, we have to make sure we aren't causing any problems for the unit leaders or Range Control."

Westbury's office is co-located with the Range Division where he works closely with schedulers to coordinate researcher site trips with training activities. He serves as a single point of contact for all research activities requesting range access. This avoids confusion from having multiple requests and detailed contact information that would have to be entered into the Range Facility Management Scheduling System.

The goal is to use all of the data being collected to better understand the complex nature of ecosystems. This improved knowledge will help the research team develop models and tools for land managers to use in making smart decisions that will be in the best interest of the ecosystem over both the short and long terms.

Ultimately SEMP will answer complex scientific questions and provide practical, easy-to-use tools for managing Fort Benning at the ecosystem level. "The diversity and brain power of the researchers working on SEMP is incredible. We have some of the best minds in the country working together toward a common goal," Brent said.

For more information about SEMP contact the CERL Public Affairs Office at 217-373-6714.

First Standardized Unexploded Ordnance Technology Demonstration Site Opens

By JEAN PAVLOV
Huntsville Center

Completed in October, the Aberdeen Proving Ground site, Aberdeen, Md., is the first of two Standardized Unexploded Ordnance (UXO) Technology Demonstration Sites to open in the country. The standardized UXO demonstration site program is a collaboration of more than 100 organizations and is built on the experience and expertise of the participants. The goal is to establish realistic and cost effective standardized demonstration sites to support the development and demonstration of UXO detection and discrimination technologies.

The U.S. Army Environmental Center (USAEC) heads up the multi-agency program. Other agencies involved are the U.S. Army Aberdeen Test Center, and the U.S. Army Corps of Engineers Engineer Research and Development Center. The program is being funded and supported by the Environmental Security Technology Certification Program, the Strategic Environmental Research and Development Program, and the Army Environmental Quality Technology Program.

Aberdeen Proving Ground UXO Technology Demonstration Site.

Advancements in UXO detection and discrimination technology are necessary to support the operation, restoration, and transfer of Department of Defense ranges. Site terrain, geology, natural or synthetic materials, vegetative cover, and weather conditions all can affect the characterization. Use of standardized UXO Technology Demonstration Sites will allow users and developers to define what technologies are used, and determine costs and performance.

"This program will support research and development efforts in unexploded ordnance research," stated George Robitaille, USAEC Project Manager for the demonstration sites. "These sites are focused on research and development. Testing will be held on systems, platforms, and equipment and we will build on the experience of each participant."

In order to satisfy both the research and development community and the technology demonstration community, the standardized sites will consist of three areas: a calibration lane, a blind grid, and an open field.

The site will allow demonstrators to test the efficiency and effectiveness of their equipment.

The blind grid allows the demonstrator to display the sensors on their system without platform, coordinate system, or operational concerns.

The open field will document the performance of the entire system in actual range operations by presenting special challenges including wooded areas, mogul/crater areas, adjacent power lines, steep terrain, desert extremes, and boulder fields.

Demonstrations were initiated at the Aberdeen site in September. Amy Walker and Bob Selfridge from Huntsville Center Geotechnical Branch participated in the recent ribbon cutting ceremony at the request of Army Environmental Center to answer questions and provide examples of digital geophysical equipment.

GeoCenters, a Huntsville Center contractor, displayed the combined Electromagnetic (EMI)/Magnetometer (Mag) Towed Array that is being developed in conjunction with an ESTCP Demonstration and Validation project.

The Aberdeen Proving Ground site contains 17 acres. The other UXO Technology Demonstration site, Yuma Proving Ground, is located in Yuma, Ariz., about 196 miles west of Phoenix. The size of the site is 20 acres. Both site layouts include calibration lanes, blind test grids, open fields, and mogul and wooded area scenarios. Demonstrators will report if ordnance is detected, the item location, classification, type and depth of target. Reports also include soil analysis and topography survey.

The Yuma site is scheduled to be opened the first quarter of 2003. "The two sites selected, Yuma and Aberdeen, are representative of the geology and vegetation of a significant number of U.S. areas that may contain UXO," said Robitaille.

These sites will be integral to field testing and advancing the detection and discrimination technologies needed for the cleanup of UXO. They help ensure that performance results, including the evaluation of false positive rates, are accurate and repeatable. "These sites should, in the long run, support the development and transition of the best technologies for UXO cleanup," said Robitaille.

For more information, contact Huntsville Center Public Affairs office at 256-895-1693.

National Water Monitoring Day - Oct 18

Corps of Engineers districts, divisions, labs and centers responded to the call from Chief of Engineers Lt. Gen. Robert Flowers to test the waters. Flowers encouraged the Corps to participate in National Water Monitoring Day on Oct. 18 and to use it as an "opportunity to show how the Corps' commitment to water resources has made a difference to our nation." The monitoring day was part of the Year of Clean Water activities celebrating the 30th anniversary of the enactment of the Clean Water Act. A number of Corps offices reached out to schools and scout groups to conduct activities. Activities were conducted in San Francisco, Buffalo, Vicksburg, St. Louis, Fort Worth, Cincinnati, Nashville, Huntington, Walla Walla, Little Rock, Louisville, Chicago, Jacksonville and Memphis. Water-related activities will continue as 2003 has been proclaimed another Year of Clean Water.

Students from Henninger High School, Syracuse, NY, sample and test water from Onondaga Creek, and learn how the tributary's water affects Onondaga Lake.

Water sampling at Fort Worth District's Rayburn Reservoir was conducted by students from Brookeland High School, Texas. Sandra Shirley, science teacher, left, and Ed Shirley, the reservoir's environmental specialist (far right), help students with the test kit.

Students from Warren Central High School in Vicksburg, Miss., help gather water samples from the school's Viking Creek to be tested.

(Left to right) Paul Lauderdale, hydraulic engineer, Lynne Rednour, civil engineering technician, Park Ranger Terry Bowden, and Fred Jensen, hydraulic engineer, drop a water probe into Fort Worth District's Benbrook Lake.

Corps studies ways to reclaim marshlands

By DOUG GARMAN
Baltimore District

It is the largest stretch of unbroken marsh on the Chesapeake Bay and a sanctuary to hundreds of species, but the Blackwater National Wildlife Refuge in Dorchester County, Md., is rapidly losing 150 to 400 acres of land per year. Scientists now estimate that in the last half century Blackwater has lost 8,000 acres of marsh habitat, making it one of the epicenters of marsh loss in the Chesapeake Bay.

Experts attribute the losses to the rise in sea level, altered hydrology, increased salinity and damage from non-native species, most notably nutria — a South American rodent introduced in Maryland in the 1940's — with similar physical characteristics to that of a large muskrat.

According to the U.S. Fish and Wildlife Service, caretakers of the refuge, Blackwater's growing population of nutria is detrimental because nutria eat the roots of marsh plants. Once destroyed by the nutria, the underlying mud layer of the marsh begins to erode and the tidal marshes become vulnerable to salt water intrusion.

Wildlife managers estimate that between 30,000 and 50,000 nutria are in Blackwater, and their impact on the marshes can be seen in many areas.

To date, it's estimated that more than six square miles of marsh have been lost to open water because of nutria, and 53 percent of the remaining marsh has suffered significant damage and will probably be lost without preventive action.

Photo by U.S.D.A. Fish and Wildlife Service

Adult nutria average 24 inches long and weigh about 15 pounds with an appetite for marsh plants.

"When you look at an aerial photograph of the refuge taken in the 1940's and compare it with one taken today, you can clearly see that the discreet ponds and channels that once existed within the marsh system are today filled in by sediment from eroding historic marshlands,'' said Steve Kopecky, of the Baltimore District, Corps project manager for the Blackwater project. ''The marshes are now open water."

To investigate ways to stop the erosion and restore damaged areas, the Corps of Engineers, the U.S. Fish and Wildlife Service and Maryland's Department of Natural Resources have joined forces to conduct a comprehensive study and demonstration project that may offer some solutions.

As part of the study, scientists are evaluating various marshland restoration techniques and components on a 20-acre demonstration site within Blackwater's 23,000 acres of wetlands, woodlands and croplands. Within the demonstration area, hay bales were placed around four test cells, which border the edges of existing marsh. Adjacent ponds and channels with built-up sand and silt were dredged and sprayed in thin layers into the cells to rebuild the marshes from as much as 2 feet to just a few inches deep.

"Because these areas are so shallow, traditional forms of dredging and material placement will not work," said Kopecky. "By using the thin-layer spraying technique, a relatively new approach to rebuilding marshlands, we are able to create marshes with differing elevations and study what works best for Blackwater. Achieving the correct elevation of a marsh is crucial to its long-term survivability."

In addition to monitoring the effectiveness of the thin-layer spraying over the next several years, experts will also study and assess the preferred times of the year to plant vegetation, the differing planting techniques and the overall health of these restored marshlands.

The data collected from the demonstration project will assist the various agencies in determining a larger-scale restoration effort.

Any restoration beyond the demonstration effort will depend on the outcome of the final feasibility study to be completed in 2004 and the availability of future funding. The $1 million feasibility study to include the demonstration project is being cost-shared between the Corps and Maryland Department of Natural Resources.

Concurrent to this study, the U.S. Fish and Wildlife Service is conducting a four-year, $1.75 million program to eradicate nutria. A 12-member team began eradicating nutria in the spring of 2002.

"Halting erosion at Blackwater is important for many reasons," said Steve Pugh, a Corps ecologist supporting the study of the refuge. "This area still accounts for about one-third of the tidal wetlands in the state. It also provides habitat for thousands of migratory waterfowl, as well as other animals, such as the endangered Delmarva fox squirrel, 250 species of birds and the largest concentration of bald eagles in the eastern portion of the country north of Florida."

The experts agree that stopping erosion at Blackwater would improve the health of nearby Fishing Bay, the largest nursery for larvae blue crabs in the Chesapeake Bay, and improve water quality in Tangier Sound, an important sea grass area.

"What we have learned so far is that the issue isn't whether we can restore a marsh," said Kopecky. "It now becomes a question of logistics and how cost effective it can be."

For more information, contact the Baltimore District Public Affairs Office at 410-962-2626.

Mississippi River's Pool 8 drawdown

By PETER VERSTEGEN
St. Paul District

A lowered water level on the Mississippi River near La Crosse, Wis., this summer, gave plants a breather. The air and sun triggered growth in annuals and perennials on mud flats submerged by shallow backwaters since 1964. Normally, the water in the navigation pools is maintained at an artificially higher level to provide adequate depths for 9-foot draft commercial traffic. These pools were created in the 1930's and have been managed in this manner since that time.

"From standpoint of habitat, we liked what we saw in the lower part of the pool this summer," said Jim Nissen, La Crosse, Wis., district manager of the Upper Mississippi River National Wildlife and Fish Refuge, which includes pools 7 and 8. The U.S. Fish and Wildlife Service, the refuge operator, is a customer of the Corps.

What Nissen and other natural resource managers saw were shore birds, wading birds and waterfowl using the re-emergent habitat and food.

The Corps, through its St. Paul District, cooperated with the U.S. Fish and Wildlife Service, state agencies and others on the pool drawdown under the authority of the Environmental Management Program.

"Arrowhead, nutgrass, rice cutgrass were the top producers for this year, along with annuals like millet and smartweed," said Leigh Stuemke, forestry technician at the Corps' natural resources office in LaCrescent, Minn.

This is the second drawdown for Pool 8. Spring floods and a dry summer shortened the 2001 project. The lowered water level, called a drawdown, occurred in Pool 8 between June 17 and Sept. 16. The drawdown was most evident in the southern end of the pool.

The Corps operates 29 locks and dams from Upper St. Anthony Falls to Granite City, Ill. The locks form pools of water, such as Pool 8, to aid navigation and recreation. Locks beside the dams allow passage of boats. During this three-month pilot project, anglers cast their lines, swimmers and campers relaxed on sandy islands and tow boats pushed tons of corn and soybeans through the pool – normal use even with a navigation pool 1.5 feet lower.

"The goal was to reach a target elevation of 628.5 at Lock and Dam 8 toward the end of June," said Gary Palesh, project manager. "This is 1.5 feet below the normal low-operating elevation of 630 feet."

"My general impression is emergent perennial plants that became established during the 2001 drawdown did very well this year," said Kevin Kenow, a resource biologist with the U.S. Geological Survey in La Crosse.

The emergent plants provide new habitat for waterfowl, fish and other aquatic life. "Right now, fall migrants, such as ducks, geese and tundra swans, are heavily utilizing those areas," said Nissen. "Either they used them for loafing sites or improved feeding. We expect that to continue through the length of the fall migration. It is really gratifying to see. They really work those areas that were exposed," Nissen continued.

The Corps began its drawdown when lock operators at Lock and Dam 8 at Genoa, Wis., opened the gates in mid-June. Three months later, they closed gates to refill the pool to reach regulation level by the end of September. It took around 10 days for the pool to return to normal prior to the fall waterfowl-hunting season.

Shannon Bauer, St. Paul District Public Affairs, was a contributor to this article. For more information, contact the St. Paul District Public Affairs Office at 651-290-5202.

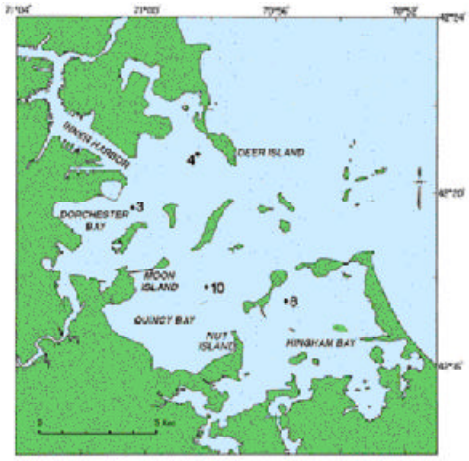
Corps to conduct study on deepening Boston Harbor

By TIMOTHY J. DUGAN
New England District

The New England District Corps of Engineers, in partnership with the Massachusetts Port Authority (Massport), will begin studies this summer to investigate the feasibility of deepening the main shipping channels in the port of Boston to a depth greater than the current authorized 40-foot depth.

Massport views channel deepening as necessary to safely and efficiently accommodate the larger container ships and other vessels now calling at the Conley and Marine Terminals in South Boston.

The study, which will include preparation of a Supplemental Environmental Impact Statement, will examine the engineering feasibility, economic justification, social and cultural resource impacts, and environmental acceptability of the proposed channel deepening. The area addressed will be examined for deepening to about 45 feet.



Boston Harbor

Deepening of a small area of the Mystic River Channel upstream of the Moran Terminal, from the current 35-foot depth to 40 feet will also be examined. The study will take about three years to complete. The study cost, estimated at approximately $4 million, will be shared by Massport and the Corps.

For more information, contact the New England District Public Affairs Office at 978-318-8264.

Brownfields 2002 annual conference focuses on investing in future

By CANDICE WALTERS
HQ Public Affairs

An army, 3,000 strong, equipped with blue satchels bearing the words "Investing in the Future," invaded Charlotte, N.C., Nov. 13 through 15 for the 2002 Annual Brownfields Conference.

Eager to learn more about the new Small Business Liability Relief and Brownfields Revitalization Act, signed by President George W. Bush on Jan. 11, 2002, participants began the two- and one-half day conference with high expectations that the forum of government, university, industry and community leaders would shed insight on how to turn areas of urban decay and blight into community assets.

Photo by Rick Thompson, published in the International City/County Management Association's Brownfields Bulletin at the Brownfields 2002 Conference.

Chris Perry (far right), Charleston District Technical Services Division, discusses Charleston District's flood protection program.

Opening the Nov. 13 afternoon plenary session was U.S. EPA Administrator Christine Todd Whitman, who said that the new brownfields legislation has changed the brownfields landscape forever. She announced four goals: to protect the environment; to strengthen existing partnerships such as the new Brownfields Federal Partnership of which the U.S. Army Corps of Engineers is part; to expand partnerships with the private sector; and, to sustain property reuse.

Also sharing perspective during the plenary session was Corps Director of Civil Works Maj. Gen. Robert Griffin, who talked about the Corps' changing role as it seeks more collaboration with its partners and communities. He stressed the importance of considering water resources as brownfields are revitalized.

He noted that the conference participants are part of an army, an army whose goal is to win the brownfields war at more than 45,000 existing brownfield sites. And the Corps is proud to be a partner in the national effort to achieve victory, Griffin said.

While it could be said that "nations that develop their water resources prosper, from a brownfields perspective, that phrase really should be 'nations that practice environmentally sustainable development of their water resources prosper,'" Griffin noted, drawing applause from the conference participants.

In July 2002, the Corps and the Environmental Protection Agency signed an agreement committing to working together on eight urban river restoration pilot projects during the next year. The projects will focus on water quality, human and environment health, habitat restoration and preservation, economic revitalization, and public use of the rivers. Although only eight projects will be selected, 29 candidates are being considered.

Griffin noted that ongoing Corps activities that could help in brownfields redevelopment include: environmental dredging studies, watershed studies, multi-objective feasibility studies in urban areas, dredge material management studies, and other contaminated sediment activities.

The Corps has been called upon to help solve many of the nation's water resources problems for more than 200 years, the general said, and has the tools to achieve two national priorities – economic development and environmental restoration.

"The challenges are great, but the rewards for future generations are much, much greater," Griffin said. "The Corps looks forward to being part of the Brownfields team as we successfully reclaim these treasures, one battle at a time."

While the conference provided answers to many questions, it also heightened people's awareness of other related challenges on the horizon for the Brownfields "army." Among these challenges are the loss of farmland and greenspace to sprawl; increasing demands on water supplies; and the call for streamlined access to assessment and cleanup funds.

Several Corps districts also participated in the conference. Military Programs Environmental Division Chief Ms. Patricia Rivers moderated a session on "Recycling Government Property;" Mark Wingate of the New Orleans District was a presenter in the "Rediscovering the Waterfront" discussion; Debra O'Leary of the San Francisco District on loan to the city of East Palo Alto, Calif., participated in the "Communities Lead the Way to Win-Win Partnership" discussion; and two districts, Wilmington and Charleston, explained through displays how shoreline protection measures and flood control measures the Corps provides can help prevent both environmental damage and economic loss.

For more information contact USACE HQ Public Affairs at 202-528-4285.

New England District Engineer testifies on Ocean Policy

By ANN MARIE HARVIE
New England District

In September 2001, a 16-member U.S. Commission on Ocean Policy, mandated by the Oceans Act of 2000, launched a series of public meetings to gather information about pressing issues the Nation faces regarding use and stewardship of oceans.

The Commission on Ocean Policy was established in 1966 by President Lyndon Johnson to develop a national oceans report that would make recommendations to the President and Congress on ocean and coastal issues.

The U.S. Army Corps of Engineers New England District Engineer testified before the Commission on July 24 in Boston to address major issues on the regional coordination of ocean policy.

The New England District's jurisdiction covers the 6,100 miles of coastline, 11 deep water ports and 102 recreational and small commercial harbors from Maine to Connecticut. Its civil works missions are navigation, flood damage reduction and ecosystem restoration.

The New England District Engineer Col. Thomas L. Koning, along with five other panel members from federal agencies in the region, identified six priority issues that require a national policy review. These issues are:

Photo by Mark Mcinerney

Col. Thomas L. Koning testifies before U.S. Oceans Policy Commission.

1. **The future of harbors and ports – priorities and the issue of competition.** "We believe a goal of the commission should be to help the nation spend its tax dollars wisely by outlining what our ports and harbors should look like in the future," Koning said. "There are not enough resources to meet the needs of every federal, state, and local good idea that comes along." Recommended action is to establish a national port and harbor 2050 and 2100 vision to prioritize navigation needs and the use of federal resources. "The healthy competition between major ports in each region needs to be examined to allow a national strategy for future port deepening," he said.

2. **Disposal of dredged materials**. "Currently the Clean Water Act (Section 404) and the Marine Protection, Research and Sanctuaries Act are inconsistent in the approval requirements for disposal of dredged materials." The proposed action on this issue is to set a policy to streamline dredging and dredged material disposal activities under one statue, which is flexible enough to allow the use of advanced technologies.

3. **Jurisdiction of federal approval of activities in waters of the United States**. "The writers of the statues that govern how the Corps permits activities in the waters of the United States did not envision the technological advancements that now allow us to have free standing structures well out into the ocean," he said. Suggested action was to define a national policy for non-extraction ocean energy projects (such as wind/wave energy) and commercial ventures.

4. **The need to establish coordinated interagency priorities on ecosystem restoration**. "Restoration of our aquatic ecosystems is a priority for many federal agencies," he said. "Coastal America is a great success story. This partnership has encouraged federal and state agencies to collaborate on aquatic ecosystem restoration." Koning encouraged more partnering among federal agencies to maximize the restoration of aquatic habitats. "The Ocean Policy Commission should build upon the Coastal America model in many areas to foster good government," he added.

5. **Policy to address shoreline protection and sea level rise**. "Our nation needs a policy to address shoreline protection and sea level rise," said Koning. His proposed action for this issue is to create a federal baseline and then predict a 2050 and 2100 shoreline profile and institute management plans accordingly. "We need to develop long-term regional plans to address this potential problem. We also need to change our policy to recognize and allow environmental benefits in our planning process."

6. **The remediation of contaminated aquatic sediments**. "We need a specific policy to address the nationwide problem of contaminated sediments in our urban rivers and estuaries," he said. Recommended action is to establish a dedicated fund and program authority for the evaluation and remediation of contaminated sediments in our coastal watersheds.

Before turning the discussion over to the other panel members, Koning addressed the need to keep the issue of national security in mind when creating policy.

"The proposed Ocean Policy should not preclude the ability of our armed forces to effectively execute their mission in the areas of homeland security and national defense in the waters of the continental United States, Alaska, Hawaii and U.S. territories and possessions," he concluded.

Other panel members included Robert Ostrom, Administrator, Maritime Administration, U.S. Department of Transportation; Patricia Kurkul, Regional Administrator, Northeast Region, National Marine Fisheries Service, NOAA; Dr. Jaime Geiger, Assistant Regional Director, Northeast Region, U.S. Fish and Wildlife; and Thomas Skinner, Director, Office of Coastal Zone Management, Executive Office of Environmental Affairs, Commonwealth of Massachusetts.

After hearing from 440 presenters in 10 cities over 11 months, the Commission completed its fact-finding phase in October 2002. The Commission has now entered its deliberative phase, which will continue into early 2003.

For more information, contact the New England District Public Affairs Office at 978-318-8777.

Work completed on Trempealeau National Wildlife Refuge

By SHANNON BAUER
St. Paul District

The U.S. Army Corps of Engineers, St. Paul District, and the U.S. Fish and Wildlife Service celebrated National Wildlife Refuge Day on Oct. 18, with an open house public dedication ceremony for new dikes and pump stations constructed at the Trempealeau National Wildlife Refuge near Trempealeau, Wis.

This 6,200-acre refuge lies within the Mississippi River flyway, adjacent to the river on the Wisconsin side at Pool 6, 20 miles upriver from La Crosse, Wis. The Fish and Wildlife Service acquired most of the land for the refuge in 1979 as a breeding ground for migratory birds and other wildlife.

The construction of the habitat project, a cooperative effort between the Corps of Engineers, Fish and Wildlife Service and Wisconsin Department of Natural Resources, began in 1995 and cost $4.5 million. It was the largest Upper Mississippi River System Environmental Management Program contract awarded in the St. Paul District.

Project manager Don Powell has worked on the Trempealeau National Wildlife Refuge since its inception 10 years ago.

It involved constructing dikes to create three separate management pools, allowing refuge managers to control water levels to promote vegetation growth and provide optimum habitat for wildlife. The project was substantially complete in September 1999, with supplemental work performed in 2001 and 2002. In 2001, the Minnesota Society of Professional Engineers selected the project as one of the Seven Wonders of Engineering.

Prior to construction, the refuge had been deteriorating as a feeding and resting area for migratory birds, according to Corps project manager Don Powell. "Wetlands in the southern half of the refuge were largely unproductive for wildlife because of turbid water conditions that limited aquatic plant growth," Powell explained. "Wave action, 'rough' fish and (low) dissolved oxygen levels in the winter contributed to the water quality problem. In other areas of the refuge, woody vegetation was expanding into wetland areas."

Originally, the site contained a large pool of around 3,000 acres. There were also several parts of the refuge not getting enough water, accelerating the transition from wetlands into forest.

To break up the larger pool, the Corps created a 700-acre management pool by building a dike made of dredged material and protected by rock fill. A pump was added that draws 22,000 gallons of water a minute, enabling the refuge manager to draw down the water level three feet in two to three weeks. The water is pumped into the Mississippi River through the railroad embankment. It was successfully drawn down in the summers of 2000 and 2002.

The other two dikes constructed created two smaller pools, one of 550 acres and one of 220. Whereas the larger pool had the problem of too much water, these areas often lacked water. Willows and other hard woods were encroaching into the wetlands. Small pumping stations were added to draw in water either from the larger pool or the Trempealeau River, which is located on the east edge of the refuge.

Pumps used are electric in order to cut down on the noise disturbance for the wildlife near the refuge. Also, lower disturbance during the construction phase, two of the dikes were built hydraulically.

Pat Vickman, a project engineer at the eastern area office, said there were many restrictions in place during the construction to minimize disturbance to fish and wildlife. Vickman explained that construction occurred during the breeding periods of eagles and ospreys and the trucks were not permitted off the road.

Vickman visited the project again as a Corps employee to repair ice damage to the rock groins of the large pool during the 2001 winter. "I saw the pumping stations in operation," he said. "I was very surprised by the number of fish in both pools that are in there now."

The waterfowl has increased in the refuge as well. According to data provided by the Fish and Wildlife Service, 6,111 ducks were counted in the refuge in 1997. After the 2000 first drawdown, 27,396 ducks were counted. In 1997, 1,262 geese were counted; and 2,116 were counted in 2000.

"It was almost an immediate increase in waterfowl. It looks like the pumps and dikes are working," said Bob Drieslein, refuge manager. "Some of the changes we're looking for are long-term, though; they're not going to happen overnight. It's a little too soon to tell."

He said over time, by managing the water levels, the Fish and Wildlife Service hopes to see an increase in both emergent and submerged vegetation, which will in turn increase the number of game fish, rare waterfowl such as pelicans and cranes and wetlands mammals like muskrats. "We're starting to see a response already in Pool A [the larger of the three management pools]," he said.

The habitat project fits into a master plan developed by the refuge and the public a decade ago. Drieslein said this project was just part of the plan, and there are more opportunities for future projects on the refuge.

For more information, contact the St. Paul District Public Affairs Office at 651-290-5202.

Corps tests new mussel relocation method

By DAVE TREADWAY
Nashville District

More than two dozen workers representing seven different agencies recently experimented with a new method of relocating mussels in the Tennessee River, a required procedure prior to dredging operations where mussels are present.

The work was the culmination of more than three years of planning by the U.S. Army Corps of Engineers, the Tennessee Valley Authority (TVA), the U.S. Fish and Wildlife Service, the Tennessee Wildlife Resources Agency (TWRA), the Tennessee Department of Environment and Conservation (TDEC), Wolf River Conservancy, and Dr. Andrew Miller, Reach Limnologist with the U.S. Army Engineer Research and Development Center (ERDC) in Vicksburg, Miss.

Corps of Engineers boats and barges assembled before dawn on Sept. 18, 12 miles downstream of Pickwick Lock and Dam, the area selected for the relocation experiment.

Once all agencies were present and briefed on safety procedures, a boat lowered a 3-cubic yard clamshell dredge to scoop 12 inches of substratum (Treatment 1). The next sample was a full 3 cubic yards (Treatments 2 & 3). "This material," said Planning Biologist Joy Broach, "will serve as our test bed to determine how many of the mussels relocated in this manner are harmed by the equipment."

The conventional method of relocation is by hand, using divers who survey the surface area to be dredged, an expensive and time-consuming procedure depending on the size of the area to be cleared. According to Miller relocating mussels can be a costly procedure. Divers could collect and remove live mussels from approximately 270 square meters during a working day. At this rate, the crew could cover approximately one acre in 15 days. For the divers to remove mussels by hand from an area 4.3 acres requiring dredging near Diamond Island in the Tennessee River could require 64 days (4.3 acres x 15 days/acre) at a cost of $3,000 to $5,000 per day ($192,000). This would not include time required to transport and replace the mussels. To move those same 4.3 acres of mussels by clamshell dredge would require approximately 10-14 days of a dredge crew and equipment at $7,200 per day ($100,800 max) and this estimate would include the transport and relocation of the mussels.

Another method of collecting mussels is with a diver-operated suction pump. More mussels can be removed using a suction dredge with a 4-8 inch intake pipe than a diver could collect by hand. Both methods result in some mussel mortality due to handling, temporary storage before relocation, or placing them in the water.

Broach joined other biologists Dr. John Jenkinson from TVA, Patty Coffey from the Corps, and David Sims from TWRA to sift through the two piles of sand, gravel, and cobble to retrieve all species of both adult and juvenile mussels. "We need to determine what percentage of mussels survive both the shallow scoop method and the full-scoop methods of dredging," explained Broach.

Photo by Dave Treadway, Nashville District.

A dump scow empties freshwater mussels to be examined during the next 12 months to determine mortality rate.

The group gently placed specimens into bags placed in buckets of water. Collected specimens were then given to TWRA Wildlife Officers for identification and data collection.

Miller and his crew on shore then took the mussels. He carefully inspected each mussel for damage, and determined the exact size of each before each was inscribed with an identifying number. Only one damaged mussel was found in the two test scoops.

All three treatments were used and placed perpendicular to the shore at marked areas so divers can revisit them at 30-day, and 12-month intervals to examine mussels for condition and survival rates.

Miller said he was pleasantly surprised by the preliminary results. "We have carefully examined between 500 and 1,000 mussels today and we found very few damaged mussels in the dredged up material. TWRA divers found some mortality in the area where the dredge worked. All other mussels appeared to be in excellent condition," he said. "All measured and marked specimens were returned to the relocation sites and will be studied over the next 12 months to determine their survival rates as a result of this mussel relocation experiment.

This method could result in lower mortality rates," continued Miller, "and be quicker than using divers to collect by hand. This may be the first time such an experiment has been tried."

When completed and evaluated in March 2004, this experiment could reveal a better and more cost-effective method to accomplish that end with less stress to the mussels.

For more information contact the Nashville District Public Affairs Office at 615-736-7163.

New England District/partners break ground on Smelt Hill aquatic habitat restoration project

By ANN MARIE HARVIE
New England District

The New England District joined its Maine Corporate Wetlands Restoration partners at the site of the Smelt Hill Dam in Falmouth, Maine, to break ground on another aquatic habitat restoration project.

The ceremony, which took place on Sept. 27 at both the construction site and at the Falmouth Town Hall, marked the beginning of work to remove the dam and restore natural habitat and fish passage conditions to seven miles of the Presumscot River from Falmouth to Westbrook.

Water flows through the damaged Smelt Hill dam.

The removal of Smelt Hill Dam is only one of many restoration projects being accomplished in the country under the Coastal America Program. The Smelt Hill Dam was used for hydroelectric power generation until generating facilities were severely damaged during an October 1996 flood. The fish passage facility at the dam was also damaged to the point that it was non-functional. As a result anadromous fish species have been unable to freely bypass the dam.

"Sometime back in the 1700's, private interests began to construct dams on this river to harness its hydropower and produce energy," said Col. Thomas Koning, New England District Engineer. "The value of that effort for this portion of the river has long since passed away and today, we see a much more valuable use of this water system."

The restoration project entails the removal of that 151-foot long, 31-foot wide and 15-foot high stone filled timber crib dam and its appurtenant structures. The dam removal will allow migratory fish (shad, blueback herring, alewife, rainbow smelt, and striped bass) to swim through the fish passage previously built by the Maine Department of Marine Resources to a fish ladder located at Highland Lake on Mill Brook, 12 miles upstream.

"The benefits of providing unrestricted fish passage are many, including restoring the natural river ecosystem, enhancing water quality in the Presumscot River, and increasing populations of important forage fish species," said Koning. "These species provide a food source for recreational and commercially important fish species, both in shore and offshore, in the Gulf of Maine."

The increase of fish will also benefit wildlife such as ospreys, eagles, herons, and kingfishers, as it will supply an abundant food source. "In addition, dam removal at this site will increase scarce riverine fishing opportunities adjacent to Maine's largest population center," said George Lapointe, Commissioner of the Maine Department of Marine Resources. "The project will increase access to the river to fishermen, canoeists, and kayakers within a short distance from Portland and its surrounding communities."

The New England District awarded a $245,105 contract to A.C.T. Abatement Corporation of Lawrence, Mass., on Aug. 19. The removal of the dam is ongoing. The dam removal is being conducted under the Corps' Section 206 Aquatic Ecosystem Restoration Program. The project is cost shared between the New England District, and the Maine Department of Marine Resources. The Coastal Conservation Association of Maine and the Maine Corporate Wetlands Restoration Partnership have assisted the Department of Marine Resources with their financial requirements for the project.

For more information, contact the New England District Public Affairs Office at 978-318-8777.

Willamette Valley Project in good hands

By HEIDI Y. HELWIG
Portland District

Teeming with more than 34 rare, threatened or imperiled fish, wildlife and plant species, the lands of 13 Willamette Valley projects (WVP) are rich in ecological history, providing a glimpse of what the upland prairies offered to its inhabitants hundreds of years ago.

The word glimpse is not used lightly-less than 1 percent of the original Willamette Valley's unique upland prairie still exists today, making the upland prairie in Western Oregon one of the most endangered ecosystems in the United States, said Wade Stampe, U.S. Army Corps of Engineers Portland District operations manager for the WVP.

With such a fragile ecosystem teetering on the edge of survival, how would WVP resource personnel protect or restore regionally important indigenous plant and wildlife populations? That was the question looming over Stampe's head when he came on board in 1980's.

He responded the way many good managers do when faced with a challenge-he surrounded himself with people he could rely on, who could make decisions and who could take environmental restoration work to the next level.

Two Portland District employees in particular, Jim and Kat Beal, exceptionally fit the bill. Both share a deep appreciation for the environment and a passion to manage, protect and restore each element of it.

"She (Kat Beal) has gone out of her way to bring in resources to manage a healthy environment," said Paul Peloquin. Peloquin is a wildlife biologist in the Northwestern Division (NWD) and is the program manger for Environmental Stewardship, overseeing natural resources management at all Corps projects within NWD. "Kat is concerned about the frogs and turtles - not your normal fish and game species."

Jim Beal, resource manager at the Fern Ridge Dam project, shares a similar sense of ownership for the environment. " He discovered many of the sensitive areas around Fern Ridge as he conducted baseline surveys to find out what types of plant and animal species inhabited the project," said Stampe.

Jim and Kat Beal also surround themselves with dedicated and capable people. "He has a good supporting cast of characters," said Geoff Dorsey, a wildlife biologist who has worked with Beal on several environmental projects, including ones outside of the Fern Ridge project's boundaries.

Wildlife biologist Kat Beal (left) holds a baby Western Pond Turtle.

"What we do at the Willamette Valley Project isn't just about endangered species - it's about community and our links with it," Stampe added.

This may be best demonstrated by the Corps' commitment to involve youth organizations in its prairie restoration and habitat protection projects, recognizing the educational value of the projects is more important than just getting the work done, said Jim Beal.

"Fern Ridge is complex," Peloquin said. "There are a lot of private interests in the project. It's a microcosm politically and economically. It's [a] highly focused [project] with a lot of people who have an interest in it.

With so many people focused on the project, it's important to be zealous about your work, but it's also important to do your work wisely," Peloquin said. "Fern Ridge, in my mind, has been a pioneering effort over the last 20 years. It represents what environmental sustainability and environmental stewardship is all about. It's a demonstration - a living lab, if you will. In essence, they [the Beals] have practiced the environmental sustaining principles that Lt. Gen. Flowers has his fingers on."

Peloquin's praise for the work at the Willamette Valley projects, in particular at Fern Ridge, recently caught the attention of the Corps' Headquarters Office and resulted in separate Headquarters Commander's Awards for the Beals, signed by Chief of Engineers Lt. Gen. Robert Flowers.

While Kat Beal said the award was one of the most meaningful of her career, she said she realizes not everyone is a zealous supporter of environmental stewardship.

"Strangely enough," she said, "the importance of resource stewardship is still a hard sell in some circles; recognition that it is a command priority and a legitimate mission among many is helpful."

To keep natural resources stewardship a command priority Peloquin is serving on the Environmental Stewardship Support Program "to help develop a corporate attitude toward management of natural resources across the U.S. Army Corps of Engineers. This is important because environmental stewardship is part of the Corps' mission," he said

To help gain momentum for the program, Lt. Gen. Flowers invited all Corps members to suggest a "poster child" project that embodies all the environmental operating principles.

Peloquin said his response was quick and natural. "I have it" he said. "It's Fern Ridge."

For more information contact the Portland District Public Affairs office at 503-808-4510.

New England District team receives recognition for reducing costs, time for harbor sediment project

The multi-agency New Bedford Harbor Superfund Team was nominated for an award for cutting a Superfund project's estimated project cost by $308 million and for taking six years off the projects life, thus restoring the project schedule. Bob Hunt, Project Manager (now retired after 33 years with the Corps of Engineers), nominated the team for the "inordinate amount of work [they accomplished] over the 1.5 year Value Engineering and Alternatives Analysis (VE/AA) investigation while evaluating innovative ideas and suggestions which have been adopted recently by the Environmental Protection Agency (EPA) and changed the direction of the project."

The Work Environment Committee of New England District honored the team as Team of the Month for July 2002. Team members included individuals from EPA, Massachusetts Department of Environmental Protection, Foster Wheeler, ENSR International, Haley & Aldrich, and Corps employees; Moe Beaudoin, Joe Dean, Mark Desouza, Ed Fallon, Francis Fung, Mark Geib, Randy Godfrey, Bob Hunt, Steve Kelley, Paul L'Heureux, Jim Leary, Jay MacKay, Erik Matthews, Bob Meader, Fred McAuley, Eara Merritt, Warren Withers, Wade Seyle, Phillip Muller, Bonnie Ortiz, Ian Osgerby, Marc Paiva, Kathleen Pendergast, Bill Phelan, Tim Rezendes, Rose Schmidt, Karen Schofield, Bob Simeone, Patricia Sumner, Chris Turek, Matt Walsh, Mike Walsh, Quentin Walsh, and Marie Wojitas.

OVEST, the Corps' Value Engineering Center of Expertise and HQ VE Study Team, led the Value Engineering Study. "Incorporating Value Engineering into everything we do" is the current emphasis of General Flowers' initiative to "Reinvigorate Value Engineering" within the Corps.

Nomination background

According to Hunt, "The Value Engineering investigation started in April 2000 and was completed in November 2001. Seventy-three alternatives, valued in excess of $10 billion, were evaluated to determine how to more effectively manage and dispose of about one million cubic yards of harbor sediments; 500,000 cubic yards contaminated and the rest clean material from building Combined Disposal Facilities (CDF).

"To evaluate the array of alternatives, a large material balance/cost program was developed. The investigations included an international search for new dredging technology which led to field trials; market analyses of transportation and disposal costs by rail and truck; on-site and bench scale tests for both mechanically dewatering sediments and for various water treatment methods; geotechnical and laboratory testing; on-site sediment sampling; extensive layouts of alternative CDFs and water treatment and dewatering building alignments, quantity estimates, and costing of alternatives; and engineering, environmental, cultural, legal, real estate and related studies. The extreme dedication of the entire team to research, develop and evaluate the alternatives while conducting parallel designs on the original features of the Record of Decision (ROD), and continuing with construction of several features made the tasks even more challenging - with expenditures during this period of $28 million."

The abstract in the VE/AA Report summarized the details of the findings and measures adopted by EPA. The problem was that the cost of the original ROD plan had substantially increased from $340 to $628 million. This resulted primarily from very unstable foundation conditions in which to build four CDFs along the New Bedford shore, and scheduling constraints due to limitations on likely funding from the Superfund Account. The impact of higher costs and a schedule extension of six years also generated significant environmental, health and regional development concerns.

Project changes

The following project changes, which provided the solution, were adopted by EPA after investigation, and resulted in reducing the project cost and restoring the original project schedule:

- Changing the method of water treatment for dredging effluent from Ultraviolet/Oxidation in the existing plant to Granulated Activated Carbon for the new enlarged plant, saving $53 million;
- Using new dredging technology for removing harbor sediments which resulted in potential dredging production rates three times higher than found during feasibility pilot tests, and recycling of water that decreased water treatment by an additional 90 percent, a savings of $42 million;
- Mechanically dewatering harbor sediments in order to reduce the storage volume of dredge material almost in half, rather than slurry pumping it directly into the CDFs, thereby cutting the number of CDFs from four to two, a savings of $165 million;
- Transporting and disposing of the contaminated sediments off-site, primarily by rail to an approved landfill in lieu of building any CDFs, a savings of $48 million.

For more information, contact the New England District Public Affairs Office at 978-318-8238.

Environmental cost documents available

By JIM PETERSON
HTRW CX

The Hazardous, Toxic and Radioactive Waste Center of Expertise (HTRW CX) has developed and a number of environmental cost documents the past few of years. Provided is a brief description of each document and corresponding web addresses for your reference and use.

- EPA & USACE "Guide to Developing and Documenting Cost Estimates During the Feasibility Study". This document describes how to develop more complete, accurate, and consistent estimates by presenting clear procedures and resources during the Feasibility Study phase and to improve documentation by presenting a standard format and checklist. The web address is www.hq.usace.army.mil/cemp/e/ec/ec-regs.htm#anchorER under the header "Environmental Cost Estimating Guide"

- EPA & USACE "Guide to Preparing and Reviewing Remedial Action Reports of Cost and Performance". This document provides confirmation that the remedy outlined in the Record of Decision has been fully implemented, that cleanup goals have been achieved, that key observations and lessons learned have been documented, and summarizes project cost and performance information. The web address is www.usace.army.mil/inet/usace-docs/eng-pamphlets/ep1110-1-19/toc.htm.

- Remedial Action Work Breakdown Structure (RA WBS) and Operation and Maintenance Work Breakdown Structure (OM WBS) February 1996. These structures help provide standardized means to categorize costs in estimates. The web address is www.environmental.usace.army.mil/info/technical/cost/costtool/costtool.html.

- The Environmental Bulletin. Explains the cost engineering capabilities throughout the entire Corps of Engineers and briefly explains the HTRW CX cost initiatives. The web address is www.hq.usace.army.mil/CEMP/E/EC/PDF/eng-bul-june97.PDF.

- Report on Treatment, Storage, & Disposal Facilities (TSDF) for HTRW. This report is designed to provide cost engineers with valuable source information regarding charges associated with the disposal of Resource Conservation and Recovery Act Subtitle C hazardous wastes. Included with the report are subject narratives, tables and figures, and contact details. The report is being updated in FY 2003. The web address is www.environmental.usace.army.mil/library/pubs/tsdf/tsdf.html.

- HCAS (Historical Cost Analysis System). This program is a historical cost collection software program of past environmental projects. It also contains a table of technology unit cost ranges from past projects. The web address is www.environmental.usace.army.mil/info/technical/cost/cost.html under "Tools and Databases".

- Construction Cost Estimates. This engineering instruction contains HTRW specific cost engineering guidance at the end of each chapter. The web address is www.hq.usace.army.mil/cemp/e/ec/PDF/EI01D010%20Construction%20Cost%20Estimates.pdf.

Another good web reference for cost engineering guidance overall is www.hq.usace.army.mil/cemp/e/EC/ec-regs.htm#anchorTM. This reference provides other USACE guidance on cost engineering.

If you have any questions about the above documents or programs, call the HTRW CX at 402-697-2612.

Environmental and Natural Resources Conference set

Mark your calendars now for the 2003 Corps of Engineers Environmental and Natural Resources Conference, April 29 through May 1, in Fort Worth, Texas.

The conference, being hosted by the Southwest Division and its districts, is set for the Radisson Plaza Hotel, Fort Worth. The theme is the "Corps of Engineers Environmental Operating Principles," which is appropriate since Chief of Engineers Lt. Gen. Robert Flowers directed that the principles be established at the last Environmental and Natural Resources Conference in Portland in April 2001.

The conference's emphasis will be on the Corps' environmental stewardship mission. There will be a plenary session and break-out workshops as well as an exhibit area for display booths. Professional development hours will be available for people attending the conference.

A Web site is being developed for the conference and will contain all details including registration fees and hotel registration information. If you need information prior to establishment of the web site, contact Scott Weber, CESWD-MTM at 214-767-2406, Patty Taylor, CESWD-MTE at 214-767-2363, and Larry Bogue, CESWD-CMO at 214-767-2432, Dale Otterness, CECW-ETV at 202-761-7697, Fred Eubank, CEMP-RA at 202-761-1128 or George Tabb, CECW-ON at 202-761-4827.

The Challenge To Excel

FY2003 PROSPECT COURSES

A wide variety of technical and professional development courses are available through the USACE Proponent Sponsored Engineer Corps Training (PROSPECT) Program. Information about the FY03 program can be found online at: http://pdsc.usace.army.mil under Class Schedules.

To register for any of these courses, first discuss this with your supervisor and then contact your local training coordinator. Your training coordinator can guide you through the registration process and inform you of any deadlines applicable in your organization as well as all local procedures that you must follow to register.

If a course is full, you may request to be put on a waiting list and you will be informed when a space becomes available.

PROSPECT courses are open primarily for Corps of Engineers personnel. Government personnel from other agencies (federal, state, or local), however, may take PROSPECT courses on a space available basis.

For further information, contact John Buckley at 256-895-7431 or email at John.P.Buckley@HND01.usace.army.mil.

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